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ABSTRACT

This report examines the responses in a 1-year followup survey from over 13,000 baccalaureate graduates from Illinois public universities in 1991. The report presents a statewide profile of the Class of 1991 one year after graduation, examining their rates of employment, further education, and satisfaction with their undergraduate education. Findings indicated the following: (1) 71 percent of the respondents were employed full time and 12 percent part time; (2) 19 percent of the respondents were both employed and enrolled for further schooling, while 5 percent were neither employed nor enrolled; (3) enrollment patterns did not differ significantly by either gender or racial/ethnic group, but did differ by type of undergraduate major--arts and science majors constituted the majority of those enrolled full time, although only a third of the survey respondents were arts and science majors; (4) graduates employed full time and those neither employed nor seeking employment were slightly more positive than graduates employed part-time and those unemployed and seeking employment; and (5) full-time employed graduates with majors in professional fields were more satisfied with their jobs and with their majors as job preparation than were arts and science majors. An appendix provides the survey questions used in the survey. (GLR)

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STATE OF ILLINOIS
BOARD OF HIGHER EDUCATION

PUBLIC UNIVERSITY BACCALAUREATE CLASS OF 1991 FOLLOW-UP SURVEY

EXECUTIVE SUMMARY

This report examines the responses by baccalaureate graduates in the Class of 1991 to the first common follow-up survey administered by the Illinois public universities. The report presents a statewide profile of the Class of 1991 one year after graduation, examining their rates of employment, further education, and satisfaction with their undergraduate education. Given several anomalies in the administration of this first common survey, caution is urged in applying conclusions to the class as a whole and in making decisions based on this single survey. As additional classes are surveyed in future years, trends in responses should be useful in making program improvement decisions.

Employment

At the time of the survey about a year after graduation, 83 percent of the survey respondents were employed.

- 71 percent of the respondents were employed full time and 12 percent part time.
- 19 percent of the respondents were both employed and enrolled for further schooling, while five percent were neither employed nor enrolled.
- 86 percent of those employed full time had obtained their jobs within six months of graduation. For the remaining 14 percent of those employed full time, the job search took longer than six months.
- Employment patterns did not differ by racial/ethnic group, but differed slightly by gender: Women were more likely than men to report part-time employment.
- Employment patterns also differed slightly by the type of major in which graduates earned their baccalaureate degrees: 58 percent of those employed full time earned their baccalaureate degrees in professional fields, a proportion higher than their proportion among all respondents.
- The majority of full-time employed respondents considered their jobs related to their undergraduate major, regardless of the major, and reported employers and occupations that corroborated this relationship.
- Within each undergraduate major, the mean annual incomes of male respondents employed full time were significantly higher than the mean annual incomes of women respondents employed full time.
- The mean annual incomes of men employed full time by industrial and commercial companies and by government, as well as those self-employed, were significantly higher than the mean annual incomes of women employed full time by the same employers.

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Further Education

At the time of the survey about one year after graduation, three out of ten survey respondents were enrolled for further education.

- Enrollment patterns did not differ significantly by either gender or racial/ethnic group, but did differ by type of undergraduate major: Arts and science majors constituted the majority of those enrolled full time, although only a third of the survey respondents were arts and science majors.
- The undergraduate major of those enrolled full time was related to the type of further education pursued full time: Social science and business majors each accounted for 21 percent of those enrolled full time in professional master's programs, social science majors also accounted for 50 percent of those enrolled full time in law school, and math and science majors accounted for 81 percent of those enrolled full time in medical, dental, and other first-professional health professions' schools.

Satisfaction

In the follow-up survey about a year after graduation, nine out of ten respondents expressed positive attitudes towards the university from which they graduated and towards the major in which they earned their baccalaureate degrees.

- Graduates employed full time and those neither employed nor seeking employment were slightly more positive than graduates employed part time and those unemployed and seeking employment.
- Full-time employed graduates with majors in professional fields were more satisfied with their jobs and with their majors as job preparation than were arts and science majors.
- Nine out of ten respondents enrolled full time for further education reported their baccalaureate program prepared them adequately or very well for further education irrespective of undergraduate major.

This first common follow-up survey provides a baseline against which each university can compare the responses of its graduates to identify undergraduate programs for improvement. As additional classes are surveyed in the coming years, the statewide database developed will play an important role in the revised state-level public university program review process. Trends in the employment of graduates will be used at the state level to augment occupational supply and demand information in evaluating statewide program capacity, while trends in the employment, further education, and satisfaction of graduates will be used by campuses in making program improvement decisions.

PUBLIC UNIVERSITY BACCALAUREATE CLASS OF 1991 FOLLOW-UP SURVEY

Information obtained from periodic surveys of graduates provides an important perspective in evaluating the effectiveness of the education provided by colleges and universities. In Illinois, the public universities have long used the results of graduate follow-up surveys in reviewing degree programs and undergraduate education in order to identify specific aspects of a program or student service that should be improved. The Board of Higher Education staff has also used the findings from university surveys in the state-level program approval and program review processes.

Since university follow-up surveys of graduates for program review were often conducted at the department level, the information available for analysis differed from program to program, and no comparable information across institutions has been available at the state level. In addition, the response rates to decentralized follow-up surveys were often extremely low, at less than 25 percent. The lack of comparability across programs and institutions and the frequently low response rates have limited the usefulness of survey results at both the state and campus levels.

During academic year 1990-91, the public university System Academic Officers discussed the need for comparable follow-up information on baccalaureate graduates across universities and programs. When a review of survey instruments then in use revealed a similarity in key items on the employment, further education, and satisfaction of baccalaureate graduates, a working group was established to develop common questions in these three areas and a common survey schedule.

The purpose of this report is to present an analysis of the responses to the first administration of the common public university baccalaureate graduate follow-up survey. The report presents a statewide profile of the Class of 1991 one year after graduation, including rates of employment, further education, and satisfaction with their undergraduate education. This statewide profile represents a baseline against which each university can compare the responses of its graduates and track changes over time. At the state level, the employment and further education patterns of graduates by undergraduate major can be used to augment the statewide occupational supply and demand data for identifying program areas for further review and for program development.

The first section of the report briefly describes the survey instrument and schedule, as well as the limitations in analyzing the responses. The second section describes the survey responses from the Class of 1991 as a whole. The third section analyzes by undergraduate major the employment of those respondents who reported full-time employment, while the fourth section analyzes by undergraduate major the further education patterns of respondents who reported full-time enrollment. The final section suggests some next steps for improving the survey process and for using the results in decision making.

Survey Development and Limitations of Analysis

A working group, comprised of one system and one campus representative from each of the four public university systems, reached consensus on the wording of common survey questions for one-year and five- and ten-years-after-graduation surveys, on a survey schedule, and on definitions of the survey population. There are 14 common questions in the one-year-after-graduation survey and 13 common questions in the five- and ten-years-after-graduation survey. The one-year-after-graduation survey questions are reproduced in the Appendix. In addition to the common questions, the universities were free to add any additional questions they chose.

The working group adopted the following survey schedule:

<u>Survey Year</u>	<u>Survey Type</u>	<u>Survey Group</u>
1992	One-year out survey	Class of 1991 (population)
1993	Five-year out survey	Class of 1988 (sample)
1994	Ten-year out survey	Class of 1984 (sample)
1995	One-year out survey	Class of 1994 (population)
1996	Five-year out survey	Class of 1991 (sample)
1997	Ten-year out survey	Class of 1987 (sample)

Within these parameters, each university established its own schedule and protocol, with most opting to conduct the survey in the late spring (April through June) each year. The one-year out survey is administered to the entire baccalaureate graduating class of the year specified. Five- and ten-year out surveys can be administered to a representative sample of baccalaureate graduates from the specified class, although most universities have indicated they intend to survey the entire population in these out years, as well. Because graduates are identified by calendar year, rather than fiscal year, there is some variation expected among respondents to certain questions due to specific date of graduation. For example, if the university conducts its survey in May, spring term graduates will have had about one year to obtain employment and/or to begin further education, while fall term (December) graduates will only have had five months to do so. In order to obtain as high a response rate as possible, universities are expected to contact a second time those graduates who do not respond to the initial survey mailing. At the end of the first six-year cycle, the survey process will be re-examined, and any needed changes will be made in frequency of surveys, population definitions, and the wording of the common questions.

As with any new system, not all went smoothly in this first administration. Two universities surveyed a population slightly different from that intended. Rather than calendar year 1991 graduates (spring 1991 through fall 1991), Chicago State University surveyed fiscal year 1991 graduates, i.e., summer 1990 through spring 1991. Southern Illinois University at Edwardsville discovered after its surveys had been mailed that they had been sent to fall 1990 graduates rather than fall 1991 graduates. In addition, both Illinois State University and Governors State University were delayed in administering their surveys from the expected spring 1992 to winter 1992-93. The earlier graduates from all four universities, thus, had a much longer time to seek and obtain employment and to enroll for additional schooling than did the graduates of the other eight universities.

Table 1 presents for each university the total number of baccalaureate graduates, the number surveyed (defined as the number of deliverable surveys), and the number of completed survey responses received prior to the cut off date for submitting data. (Universities continue to receive completed surveys.) The table also presents the response rate for each university, calculated as the proportion of deliverable surveys completed and returned. Both Governors State University and Northeastern Illinois University obtained exceptionally low response rates, with Northeastern Illinois University also having a high proportion of non-deliverable surveys.

With a statewide response rate of 50 percent of the number surveyed, and 45 percent of the total number of baccalaureate graduates, the question arises as to whether or not the responses are generalizable to the entire class of 1991. To determine whether the respondents differed from the class as a whole, eight of the twelve universities compared selected characteristics of respondents to those of the total graduating class. Four campuses reported that women graduates responded at a slightly higher rate than men, four reported that graduates over age 30 responded at slightly higher rates than those under 30, and three reported that minority graduates responded at lower rates than their proportion in the class as a whole. Illinois State University indicated that the proportion of its respondents who are employed was higher than the state average, due perhaps, in part, to the time delay in conducting the survey. Thus, there is a slight bias among respondents in favor of women, older, and white graduates.

Table 1

PUBLIC UNIVERSITY CLASS OF 1991 BACCALAUREATE GRADUATES

	Number of Graduates	Number Surveyed ¹	Number of Responses	Response Rate ²
Chicago State University	503	503	314	62 %
Eastern Illinois University	2,262	2,189	1,173	54
Governors State University	691	678	154	23
Northeastern Illinois University	1,072	749	181	24
Western Illinois University	2,301	2,230	1,150	52
Illinois State University	4,251	4,053	2,015	50
Northern Illinois University	3,793	3,691	1,639	44
Sangamon State University	602	575	343	60
Southern Illinois University/Carbondale	4,760	3,344	1,543	46
Southern Illinois University/Edwardsville	1,455	1,329	599	45
University of Illinois/Chicago	3,080	2,798	1,427	51
University of Illinois/Urbana-Champaign	5,922	5,732	3,356	59
TOTAL	30,692	27,871	13,894	50 %

¹ Number of deliverable surveys.

² Number of responses as a proportion of the number surveyed.

Given the anomalies in conducting this first common survey, the low response rates at two universities, and the possible bias among respondents, care should be taken in applying conclusions to the class as a whole and in making program decisions based on the results of this single survey. In future years, as additional classes are surveyed and the responses of graduates who have been out of college for longer periods become available, trends in responses should be useful in making program improvement decisions.

Survey Responses from the Class of 1991 as a Whole

The baccalaureate follow-up survey was designed to answer four basic questions: 1) What proportion of the Class of 1991 was employed and what proportion was furthering their education one year after graduation? 2) Were these proportions similar for graduates of both genders and for all racial/ethnic groups? 3) Were graduates employed or pursuing further education in fields related to their undergraduate majors? and 4) How satisfied were graduates with their choice of university and with their choice of major?

Table 2 presents a matrix of the employment and further education status of the survey respondents. As the table indicates, 83 percent (11,516) of the 13,894 respondents reported they were employed at the time they were surveyed, with 71 percent employed full time and 12 percent part time. Thirty-one percent of the respondents (4,223) reported they were enrolled for further education, with 18 percent enrolled full time and 13 percent enrolled part time. Nineteen percent were both

Table 2

CLASS OF 1991: EMPLOYMENT AND FURTHER EDUCATION STATUS

<u>Further Education</u>	<u>Employment</u>					<u>TOTAL</u>	<u>Percent of Respondents</u>
	<u>Employed Full Time</u>	<u>Employed Part Time</u>	<u>Not Employed, But Seeking</u>	<u>Not Employed, and Not Seeking</u>	<u>No Response/ Unknown</u>		
Enrolled Full Time	507	587	231	1,084	39	2,448	18 %
Enrolled Part Time	1,389	218	109	42	17	1,775	13 %
Enrolled, Time Unknown	12	1				13	0 %
Not Enrolled	7,735	809	649	101	47	9,341	67 %
No Response/ Unknown	<u>211</u>	<u>47</u>	<u>25</u>	<u>20</u>	<u>14</u>	<u>317</u>	<u>2 %</u>
TOTAL	9,854	1,662	1,014	1,247	117	13,894	
Percent of Respondents	71 %	12 %	7 %	9 %	1 %		

employed and enrolled, while 5 percent were *neither* employed nor enrolled one year after graduation. (Three percent did not respond to one or both of these survey questions.)

Table 3 shows the employment and further education status of respondents by gender and by racial/ethnic group. As the table shows, employment patterns by gender are similar to gender representation in the total number of respondents except that a higher proportion of women than men reported part-time employment, and a somewhat lower proportion of women than men did not answer the employment question. There were no differences between men and women in the rate at which the respondents pursued, or did not pursue, further education. (Gender is unknown for 131 of the respondents.)¹

As also shown on Table 3, 85 percent of the respondents were white, 5 percent black, 4 percent Asian or Pacific Islanders, and 2 percent Hispanic, with 3 percent representing other groups or for whom racial/ethnic identity is unknown. Employment patterns by racial/ethnic group were similar to their representation within the total number of respondents except that a higher proportion of Asian and Pacific Islanders reported they were not employed and not seeking employment, while a lower proportion of white respondents reported they were not employed but seeking employment than their representation within the total number of respondents. Higher proportions of black and "other/unknown" respondents and a lower proportion of white respondents did not answer the employment question. Similarly, further enrollment patterns for each racial/ethnic group also were similar to representation within the total number of respondents except that higher proportions of black respondents and lower proportions of white respondents reported they were enrolled part time and did not answer the education question.

Table 4 shows the type of major in which survey respondents earned their baccalaureate degrees. Of the total number of respondents, 53 percent (7,399) earned their baccalaureate degrees in one of ten professional fields: agriculture and natural resources, accounting, business (including management, marketing, and finance), communication, education, computer science, engineering, engineering technology, nursing, and the associated health professions. Thirty-five percent (4,896) of the respondents earned their baccalaureates in the arts and sciences and 11 percent (1,451) in all other baccalaureate majors (including such diverse programs as architectural studies, criminal justice, restaurant management, legal studies, and social work). The baccalaureate major is unknown for one percent (148) of the respondents. Figure A depicts this distribution graphically.

Table 4 also shows the number and proportion of respondents from each type of baccalaureate major who were employed full time and who were enrolled full time for further education (507 respondents are counted twice, since they were both enrolled and employed full time). Seventy-seven percent of respondents with professional majors were employed full time, and 12 percent were enrolled full time for further education. On the other hand, 63 percent of respondents with arts and science majors were employed full time, and 27 percent were enrolled full time for further education.

Figures B through E depict the proportion of respondents with each type of baccalaureate degree major who reported they were 1) employed either full or part time but not enrolled, 2) enrolled either full or part time but not employed, 3) both employed and enrolled, and 4) neither employed nor enrolled at the time they were surveyed. As Figure B shows, a higher proportion of respondents with baccalaureates in professional majors reported they were employed either full or part time but not enrolled than their proportion of the total number of respondents. Figures C and D show that higher proportions of respondents with arts and science majors were enrolled full or part

¹Most universities used a coding scheme on their surveys to permit them to obtain some demographic data (e.g., gender, racial/ethnic identity, age, and/or major) from student records rather than requesting the information directly on the survey. Since a few respondents carefully removed or obliterated these codes, these key variables are "unknown" for a small proportion of the respondents.

Table 3

CLASS OF 1991: EMPLOYMENT AND FURTHER EDUCATION STATUS BY GENDER AND BY RACIAL/ETHNIC GROUP

	Gender				Racial/Ethnic Group									
	Male		Female		Black, Non-Hispanic		Hispanic		Asian/Pacific Islander		White, Non-Hispanic		Other & Unknown	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Total Survey Respondents	6,110	44 %	7,653	55 %	704	5 %	321	2 %	535	4 %	11,857	85 %	477	3 %
<u>Employment Status</u>														
Employed Full Time	4,438	45	5,323	54	503	5	222	2	322	3	8,474	86	333	3
Employed Part Time	571	34	1,073	65	93	6	40	2	58	4	1,416	85	55	3
Not Employed, But Seeking	466	46	536	53	64	6	25	3	49	5	836	82	40	4
Not Employed, NOT Seeking	579	46	661	53	33	3	32	3	102	8	1,039	83	41	3
Unknown	56	48	60	52	11	9	2	2	4	3	92	79	8	7
<u>Further Education Status</u>														
Enrolled Full Time	1,123	46	1,307	53	80	3	61	3	156	6	2,057	84	94	4
Enrolled Part Time	747	42	1,006	57	147	8	46	3	69	4	1,445	81	68	4
Not Enrolled	4,107	44	5,151	55	443	5	205	2	304	3	8,091	87	298	3
Unknown	129	42	180	58	34	10	9	3	6	2	264	80	17	5

Table 4

CLASS OF 1991: FULL-TIME EMPLOYMENT AND FULL-TIME ENROLLMENT BY TYPE OF BACCALAUREATE MAJOR

	<u>Professional Majors</u>		<u>Arts and Science Majors</u>		<u>All Other Majors</u>		<u>Major Unknown</u>		<u>Total</u>	
	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>	<u>Number</u>	<u>Percent</u>
Total Number of Respondents	7,399		4,896		1,451		148		13,894	
Majors as Percent of Respondents	53 %		35 %		11 %		1 %			
Number Employed Full Time	5,676	77 %	3,065	63 %	1,019	70 %	94	64 %	9,854	71 %
Majors as Percent Full-Time Employed	58 %		31 %		10 %		1 %		100 %	
Number Enrolled Full Time	854	12 %	1,300	27 %	273	19 %	21	14 %	2,448	18 %
Majors as Percent Full-Time Enrolled	35 %		53 %		11 %		1 %		100 %	

Figure A
Total Respondents by Baccalaureate Major

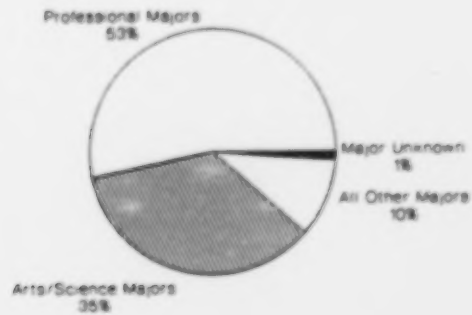


Figure B
Employed, Not Enrolled
N = 8,802

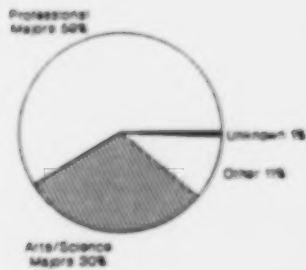


Figure C
Enrolled, Not Employed
N = 1,822

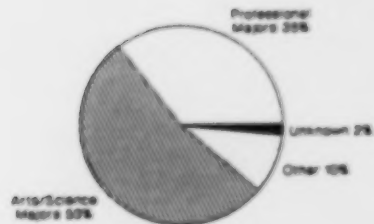


Figure D
Employed AND Enrolled
N = 2,714

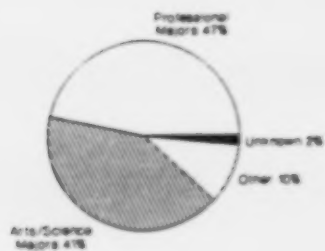
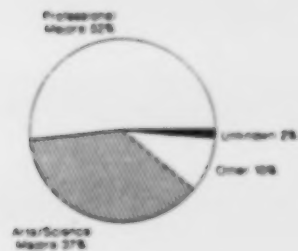


Figure E
Neither Employed Nor Enrolled
N = 888



time for further education but not employed and were both employed and enrolled than their proportion of the total number of respondents.

Table 5 shows the relationship between the respondents' employment status and their attitudes towards both their baccalaureate majors and towards the university from which they earned their degrees. Overall, 88 percent of the respondents reported a "positive" or "strongly positive" attitude towards their baccalaureate majors. As expected, those respondents who were employed full time and those neither employed nor seeking employment were more positive than were those who were unemployed but seeking employment and those employed part time. Similarly, 92 percent of the respondents indicated a "positive" or "strongly positive" attitude towards the university from which they earned their degrees. Again, those respondents who were employed full time and those neither employed nor seeking employment were more positive than were those who were not employed but seeking employment and those employed part time.

Table 5

CLASS OF 1991: ATTITUDES TOWARDS MAJOR AND UNIVERSITY BY EMPLOYMENT STATUS
(In Percentages)

	Attitude Towards Major				Attitude Towards University			
	Strongly Positive	Positive	Negative	Strongly Negative	Strongly Positive	Positive	Negative	Strongly Negative
Employed Full Time	34 %	55 %	10 %	1 %	29 %	63 %	7 %	1 %
Employed Part Time	30	54	13	3	26	63	10	1
Not Employed, but Seeking	23	56	18	3	21	65	11	3
Not Employed, not Seeking	35	55	9	1	33	60	6	1

In sum, eight out of ten of the respondents were employed either full or part time at the time they were surveyed, and three of ten were enrolled for further education either full or part time. Patterns of employment and enrollment did not differ significantly by racial/ethnic group. Women, however, were more likely to report part-time employment than were men. Respondents holding baccalaureate degrees in professional fields were more likely to report employment, while respondents holding baccalaureate degrees in the arts and sciences were more likely to report enrollment in further education than their proportions among the total number of respondents. Overall, nine out of ten respondents expressed positive attitudes towards the university from which they graduated and towards the major in which they earned their baccalaureate degrees.

Profiles of the Class of 1991 Who Reported Full-Time Employment

This section examines the relationship between education and immediate employment for the 9,854 members of the Class of 1991 who reported they were employed full time one year after graduation. The relationship between education and employment has been the subject of numerous studies, with the results generally indicating that increasing levels of education are related to higher levels of employment and to higher levels of life-time earnings. While this relationship has held true over the long term, some baccalaureate majors prepare graduates more directly to enter particular occupations than do others, and some occupations require advanced degrees for entry. The ability to obtain employment immediately after college graduation in a particular occupation or with a particular type of employer depends not only on the baccalaureate degree major but also on supply

and demand forces operating in the workplace. At the time, neither 1990 nor 1991 was predicted to be a "good year" for new college graduates seeking jobs. On April 1, 1991, the annual national college recruitment survey conducted by Thomas Luten and Patrick Scheetz of Michigan State University reported that "hiring quotas for new college graduates...dropped 13.3 percent" between 1989 and 1990, with an additional 9.8 percent decrease predicted for 1991 (*CAM Report* volume 14, number 2).

Majors in Professional Fields

Table 6 presents information on the 5,676 full-time employed respondents who earned their baccalaureate degrees in professional fields. For each baccalaureate major, the table first shows the total number of graduates within the major who responded to the survey, the proportion of the respondents who were female, and both the number and percent of respondents in the major who were employed full time. Two majors--business and education--accounted for half of the respondents with professional majors, as well as for half of those employed full time. High proportions of nursing, health, and education majors were women, while the proportions of women in engineering technology, engineering, computer science, and agriculture were low in comparison with their representation within the total number of respondents.

Table 6 then presents various employment characteristics of respondents employed full time for each professional major. The first of these employment characteristics is the location of employment. In each field, a majority of respondents employed full time were employed in Illinois or in border towns and cities such as St. Louis and the Iowa portion of the Quad Cities. Accounting and nursing majors had the highest proportions (at 86 percent each) reporting full-time employment in Illinois or in border towns. A bare majority of engineering technology majors were employed in Illinois, in part due to the 20 percent who were in the military service, many of whom were also in the service while they pursued their baccalaureate degrees. Sixty-three percent of engineering majors were employed in Illinois and in border towns, illustrating the national character of the engineering employment market.

To determine whether or not post-graduation employment is related to the graduates' undergraduate majors, Table 6 next presents responses by major to three survey questions. The majority of the respondents in each field reported that they considered their jobs related or closely related to their majors, ranging from a high of 99 percent for nursing majors to a low of 70 percent for communication majors. In addition, none of the nursing majors but 10 percent of the communication majors reported that their jobs were unrelated to their majors by choice.

To substantiate this relationship, the survey requested both the type of employer by whom the respondents were employed and the specific occupation in which they were employed. (The survey reproduced in the Appendix lists the nine types of employers, as well as specific occupations within 11 categories.) Taken together, responses to these two questions indicate that two-thirds or more of the full-time employed graduates within each major are employed in a job related to their education. The professional majors with the highest proportion of full-time employed graduates reporting directly related occupations were nursing, in which 93 percent reported they were employed as registered nurses, and accounting, in which 84 percent reported they were employed as accountants. Seventy-eight percent of computer science majors reported employment as computer operators, programmers, or systems analysts; 74 percent of health professions majors (e.g., dental hygiene, physical and occupational therapy, and medical records and medical laboratory technology) reported employment in a health occupation; and 66 percent of engineering majors reported they were employed as engineers, with an additional seven percent reporting employment as computer operators, programmers, or systems analysts. One in four agriculture and natural resources majors reported they were self-employed, while 44 percent were employed by industrial and commercial companies in various agriculture-, business-, and science and mathematics-related occupations. Communication majors were almost equally employed in communication/entertainment-related occupations and in

Table 6
CLASS OF 1991: PROFILE OF FULL-TIME EMPLOYED GRADUATES WITH PROFESSIONAL MAJORS

	Agriculture & Natural Resources		Accounting		Business		Communication		Education		
Number of Majors Responding	289		592		1,950		584		1,858		
Percent Female	30 %		55 %		50 %		59 %		78 %		
Number Employed Full Time	218		500		1,603		422		1,299		
Percent Employed Full Time	75 %		84 %		82 %		72 %		70 %		
<u>Location of Employment</u>											
Percent in Illinois	75 %		82 %		78 %		74 %		68 %		
Percent in Border Towns	4 %		4 %		7 %		6 %		3 %		
<u>Relation of Job to Major</u>											
Related/Closely Related	89 %		94 %		79 %		70 %		83 %		
Unrelated by Choice	7 %		2 %		6 %		10 %		7 %		
<u>Primary Employers</u> (More than 10 percent)											
Busin/Indus	44 %	Prof'l Firm	46 %	Busin/Indus	54 %	Busin/Indus	46 %	Schools	59 %		
Self-Employed	26 %	Busin/Indus	32 %	Other	15 %	Other	19 %				
				Prof'l Firm	14 %	Prof'l Firm	15 %				
<u>Primary Occupations</u> (More than 10 percent)											
Mgmt/Sales	30 %	Accountant	84 %	Mgmt/Sales	66 %	Communication	37 %	Education	67 %		
Agriculture	21 %			Other	13 %	Mgmt/Sales	35 %	Other	15 %		
Science/Math	17 %					Other	15 %				
Other	13 %										
<u>Timing of First Job</u>											
Held while enrolled	19 %		11 %		17 %		10 %		20 %		
By graduation	42 %		50 %		24 %		15 %		16 %		
After graduation/within six months	25 %		28 %		39 %		45 %		49 %		
<u>Mean Annual Income</u>											
Male	\$ 22,900		\$ 27,700		\$ 26,500		\$ 21,200		\$ 28,600		
Female	\$ 20,400		\$ 26,000		\$ 23,200		\$ 19,600		\$ 19,700		
<u>Mean Age at Graduation</u>											
Male	23		24		25		23		33		
Female	23		25		24		23		26		
<u>Reported Satisfaction</u>											
Percent Satisfied with Job	89 %		88 %		82 %		81 %		87 %		
Percent Agreeing Major Prepared Very Well/Adequately for Job	90 %		97 %		87 %		86 %		88 %		
Percent Positive/Very Positive towards Major	92 %		95 %		88 %		80 %		91 %		
Percent Positive/Very Positive towards the University	91 %		96 %		91 %		90 %		92 %		

Table 6 (Continued)
CLASS OF 1991: PROFILE OF FULL-TIME EMPLOYED GRADUATES WITH PROFESSIONAL MAJORS (Continued)

	Computer Science		Engineering		Engineering Technology		Health Professions		Nursing	
Number of Majors Responding	264		1,012		305		305		240	
Percent Female	28 %		16 %		10 %		86 %		96 %	
Number Employed Full Time	227		737		265		215		190	
Percent Employed Full Time	86 %		73 %		87 %		70 %		79 %	
<u>Location of Employment</u>										
Percent in Illinois	77 %		58 %		51 %		74 %		78 %	
Percent in Border Towns	2 %		5 %		3 %		3 %		8 %	
<u>Relation of Job to Major</u>										
Related/Closely Related	93 %		87 %		75 %		90 %		99 %	
Unrelated by Choice	3 %		5 %		6 %		4 %		0 %	
<u>Primary Employers</u> (More than 10 percent)										
Busin/Indus	55 %	Busin/Indus	55 %	Busin/Indus	52 %	Health Agencies	60 %	Health Agencies	90 %	
Prof'l Firm	24 %	Prof'l Firm	19 %	Armed Services	20 %	Busin/Indus	11 %			
		Government	11 %	Prof'l Firm	12 %					
<u>Primary Occupations</u> (More than 10 percent)										
Computer	78 %	Engineer	66 %	Other	28 %	Health	74 %	Nurse(R.N.)	93 %	
				Education	26 %					
				Mgmt/Sales	16 %					
				Technician	15 %					
<u>Timing of First Job</u>										
Held while enrolled	17 %		11 %		39 %		9 %		36 %	
By graduation	45 %		51 %		17 %		43 %		48 %	
After graduation/within six months	30 %		28 %		36 %		36 %		13 %	
<u>Mean Annual Income</u>										
Male	\$ 30,800		\$ 32,400		\$ 28,800		\$ 29,300		\$ 33,200	
Female	\$ 29,600		\$ 31,700		\$ 26,500		\$ 26,700		\$ 32,200	
<u>Mean Age at Graduation</u>										
Male	25		24		28		27		29	
Female	27		24		28		25		30	
<u>Reported Satisfaction</u>										
Percent Satisfied with Job	92 %		88 %		80 %		87 %		93 %	
Percent Agreeing Major Prepared	89 %		94 %		83 %		94 %		95 %	
Very Well/Adequately for Job										
Percent Positive/Very Positive	91 %		92 %		89 %		88 %		94 %	
towards Major										
Percent Positive/Very Positive	88 %		92 %		86 %		90 %		89 %	
towards the University										

business-related occupations; 67 percent of education majors reported employment in education, although only 59 percent were employed by schools; and 66 percent of business majors reported occupations in management, finance, and sales.

Table 6 next presents information on when the full-time employed respondents within each major obtained their jobs and reports the mean annual income and the mean age at graduation separately for men and for women within each major. Overall, 85 percent of the full-time employed respondents with professional majors obtained employment within six months of graduation. The proportion by field ranged from a high of 97 percent for nursing majors to a low of 70 percent for communication majors. The timing for obtaining jobs also differed by undergraduate major. Nearly one in every four engineering technology and nursing majors held their jobs while they were earning their baccalaureate degrees. In both fields, entry-level employment can be obtained following receipt of the associate degree, with advanced career opportunities available to baccalaureate degree holders. Respondents in these two fields also were the oldest at time of graduation. In six fields (agriculture and natural resources, accounting, computer science, engineering, nursing, and the health professions), approximately half of the graduates beyond those employed while completing their degrees obtained their jobs by the time they graduated, suggesting they were recruited by employers through on-campus career planning and placement centers.

Finally, Table 6 reports the responses of the full-time employed graduates with professional majors to a series of questions on satisfaction with their jobs, their major, and the university from which they graduated. Accounting and nursing majors reported the highest rates of overall satisfaction, with 97 percent of accounting majors reporting that their major prepared them at least adequately for their jobs--and 55 percent reporting the major prepared them "very well" for their jobs. Nineteen out of 20 nursing majors were satisfied with their jobs and with their majors. Conversely, nearly 20 percent of communication and engineering technology majors were dissatisfied with their jobs and their majors. Majors in both fields also had the lowest proportions of respondents who felt their jobs were related to their majors. In addition, communication majors had the lowest proportion who had obtained jobs within six months of graduation and the lowest reported mean annual income among the full-time employed graduates with baccalaureate degrees in professional fields. While business majors reported satisfaction with their majors and the university, nearly 20 percent were dissatisfied with their jobs. The fact that 15 percent of business majors also reported their jobs were unrelated to their major not by choice and 20 percent took longer than six months after graduation to obtain their jobs suggests a number of business graduates held very high employment expectations that were not met.

Majors in Arts and Science

Table 7 presents the same employment information on the 3,065 full-time employed respondents who earned their baccalaureate degrees in the arts and sciences. Unlike baccalaureate majors in professional fields, baccalaureate majors in the various arts and sciences disciplines are not generally designed to prepare graduates for particular occupations. Nonetheless, in each of five arts and science discipline areas--general liberal arts and humanities, the visual and performing arts, the social and behavioral sciences, interdisciplinary and area studies, and mathematics and science--the majority of the survey respondents also reported full-time employment, employment in Illinois or in border towns, employment in occupations and by employers they viewed as related to their majors, and satisfaction with their jobs, their majors, and the university from which they graduated. For each major, however, the proportions responding positively in each category were slightly lower than was true for majors in professional fields.

Several response patterns in Table 7 are particularly worth noting. Only half of the math and science majors reported full-time employment, with 41 percent of those employed full time reporting math and science-related occupations and 16 percent education-related occupations. Fifty-three percent of arts majors reported employment in arts and entertainment occupations, with 19 percent

Table 7
CLASS OF 1991: PROFILE OF FULL-TIME EMPLOYED GRADUATES WITH ARTS AND SCIENCES MAJORS

	Liberal Arts & Humanities		Visual & Performing Arts		Social/Behavioral Sciences		Interdisciplinary & Area Studies		Mathematics & Science		
Number of Majors Responding	1,415		447		1,994		126		914		
Percent Female	63 %		63 %		54 %		44 %		51 %		
Number Employed Full Time	972		285		1,254		87		467		
Percent Employed Full Time	69 %		64 %		63 %		69 %		51 %		
<u>Location of Employment</u>											
Percent in Illinois	76 %		73 %		81 %		87 %		69 %		
Percent in Border Towns	3 %		4 %		2 %		0 %		5 %		
<u>Relation of Job to Major</u>											
Related/Closely Related	58 %		68 %		51 %		69 %		84 %		
Unrelated by Choice	17 %		11 %		22 %		18 %		6 %		
<u>Primary Employers</u> (More than ten percent)											
Busin/Indus	34 %	Busin/Indus	42 %	Busin/Indus	35 %	Busin/Indus	30 %	Busin/Indus	38 %		
Other	15 %	Self-employed	19 %	Other	18 %	Government	17 %	School/College	27 %		
Government	12 %	Other	15 %	Government	11 %	Other	14 %	Prof'l Firm	12 %		
<u>Primary Occupations</u> (More than ten percent)											
Mgmt/Sales	38 %	Arts	53 %	Mgmt/Sales	41 %	Computer	25 %	Science/Math	41 %		
Other	22 %	Mgmt/Sales	19 %	Other	23 %	Mgmt/Sales	24 %	Education	16 %		
Service	11 %	Other	14 %	Service	19 %	Other	13 %				
<u>Timing of First Job</u>											
Held while enrolled	31 %		18 %		15 %		38 %		11 %		
By graduation	13 %		14 %		16 %		18 %		25 %		
After graduation/within six months	42 %		44 %		51 %		26 %		46 %		
<u>Mean Annual Income</u>											
Male	\$ 28,100		\$ 20,900		\$ 23,200		\$ 27,300		\$ 23,200		
Female	\$ 23,600		\$ 18,000		\$ 19,000		\$ 26,200		\$ 21,600		
<u>Mean Age at Graduation</u>											
Male	30		24		24		31		24		
Female	28		24		24		33		24		
<u>Reported Satisfaction</u>											
Percent Satisfied with Job	76 %		80 %		75 %		82 %		84 %		
Percent Agreeing Major Prepared Very Well/Adequately for Job	78 %		75 %		79 %		79 %		87 %		
Percent Positive/Very Positive towards Major	88 %		80 %		83 %		87 %		88 %		
Percent Positive/Very Positive towards University	90 %		87 %		90 %		92 %		87 %		

reporting they were self-employed. While less than ten percent within each professional major reported employment by governmental units or in public or social service occupations, sizable minorities in three arts and science disciplines did so: 17 percent of interdisciplinary majors, 12 percent of general liberal arts and humanities majors, and 11 percent of social and behavioral science majors reported full-time employment by federal, state, or local government, with 10 percent, 11 percent, and 19 percent, respectively, indicating they were employed in public or social service occupations. Finally, approximately one in five majors in the social and behavioral sciences, interdisciplinary and area studies, and general liberal arts and humanities reported that their jobs were not related to their majors *by choice*.

Overall, 83 percent of the full-time employed arts and science majors obtained employment within six months of graduation, with the responses by field ranging from a high of 86 percent for general liberal arts and humanities majors to a low of 72 percent for interdisciplinary and area studies majors. The general liberal arts and the interdisciplinary categories include the Board of Governors' Bachelor of Arts degree, which is designed specifically for returning adult students, as well as individually designed majors that are offered as options by all public universities. Not surprisingly, then, 31 percent and 38 percent of the respondents in these two majors, respectively, indicated they held their jobs while they were enrolled for their baccalaureate degrees. In addition, their mean ages at time of graduation and mean annual incomes were also significantly higher than the mean ages and incomes reported by majors in the other three fields.

Arts and science majors reported positive attitudes towards their universities in the same proportion as did majors in professional fields. Not surprisingly, however, their reported satisfaction with their jobs and with their majors as preparation for their jobs was slightly lower, ranging from 75 to 87 percent positive, compared with a range of 81 to 97 percent positive for majors in professional fields.

Reported Annual Income

The most disturbing finding from the survey was the continued significant difference in mean annual incomes by gender. The median annual income of survey respondents employed full time was \$23,000 and the mean was \$24,300. Both Tables 6 and 7 reported the mean annual incomes of full-time employed graduates by gender within each major field. Among graduates who majored in professional fields, those in the more technical fields reported the highest annual incomes, with nursing, engineering, and computer science majors all with mean annual incomes of \$30,000 or higher. The mean annual incomes of women, however, were significantly lower than those of men in each of the ten professional fields. The mean annual incomes of women with arts and science majors were also significantly lower across the board than the mean annual incomes of men with the same major. The highest mean annual income among arts and science majors was earned by men who graduated with majors in general liberal arts and humanities. The lowest mean annual incomes were reported by women who majored in the visual and performing arts and in the social and behavioral sciences. Figures F and G portray graphically the differences by gender in mean annual income for each baccalaureate major.

The exceptionally high difference in mean annual incomes for men and women education majors illustrates how the mean can be misleading if a sizable number of graduates are employed by employers or in occupations different from those for which the degree prepared them. In further analyzing the education respondents, for example, it was learned that all 52 respondents who reported annual incomes higher than \$40,000 were older than traditional college age, only 18 were employed in an education-related occupation, only 5 were employed by schools, 38 were already employed in their jobs while completing their baccalaureate degrees, and only 10 were female.

Figure F
Full-Time Employed Mean Annual Income
by Professional Major and Gender

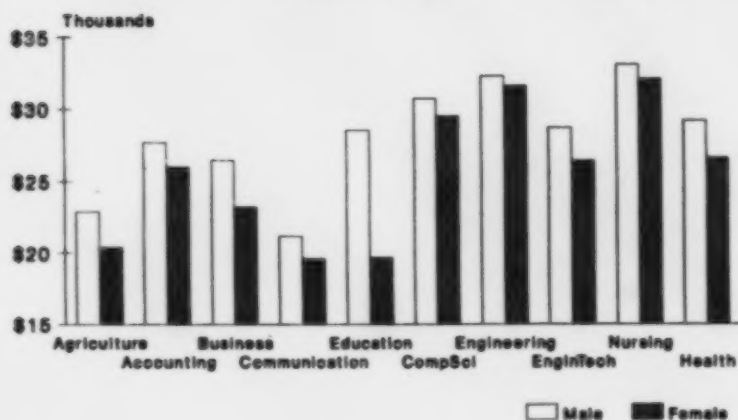


Figure G
Full-Time Employed Mean Annual Income
By Arts & Science Major and Gender

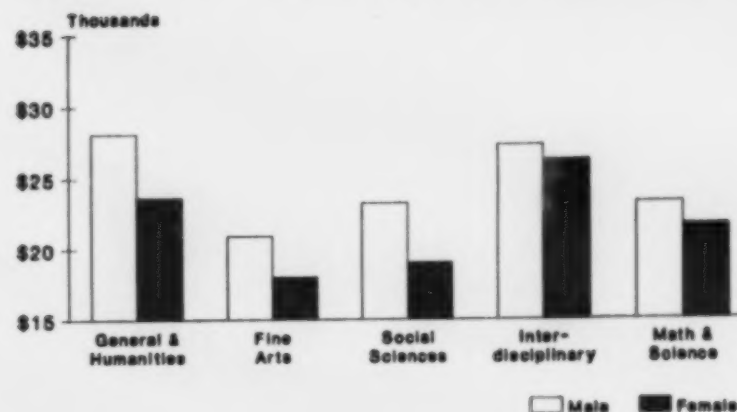


Figure H
Full-Time Employed Mean Annual Income
by Employer and Gender

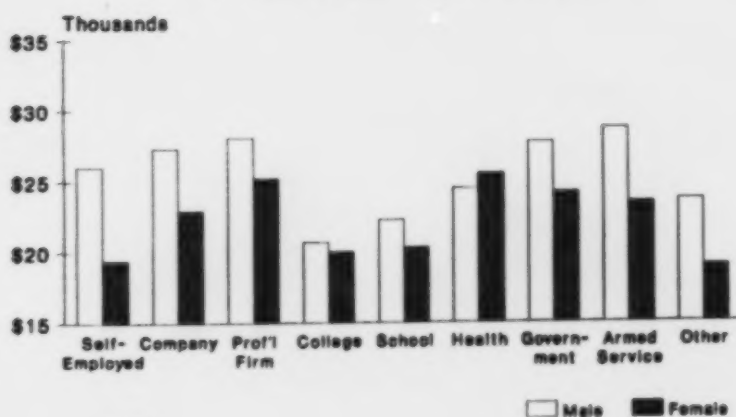


Table 8
CLASS OF 1991: MEAN ANNUAL INCOME BY EMPLOYER BY GENDER

	Mean Annual Income	
	Male	Female
Self-Employed or Private Practice	\$ 26,000	\$ 19,400 *
Industrial/Commercial Company	27,300	22,900 *
Professional Firm (e.g., engineering, law)	28,100	25,200
College or University	20,700	20,000
Elementary/Secondary School	22,300	20,300
Health Agency (e.g., hospital, clinic)	24,500	25,500
Federal, State, or Local Government	27,800	24,200 *
Armed Services	28,800	23,500
Other	23,700	19,000 *

*Male and female incomes differ significantly at the .001 level.

Thus, differences among types of employers may be more relevant to annual income than is the graduate's undergraduate major. Table 8 shows the mean annual income by gender for each of nine types of employers. The table shows that graduates employed by industrial and commercial companies and by professional firms reported higher incomes than graduates employed by schools, colleges, and universities. Table 8 also shows, however, that the mean annual incomes of men were significantly higher than the mean annual incomes of women for four types of employers: self-employment, industrial/commercial companies, government, and "other." Figure H depicts graphically the differences between men and women in mean annual incomes within each type of employer.

There were insufficient numbers of minority graduates in most majors to permit a meaningful comparison. Differences in mean annual incomes by employer were significant for two types of employer: The mean annual income of black graduates employed full time by industrial/commercial companies was significantly higher than the mean annual incomes of Hispanic and white graduates employed full time by industrial/commercial companies, and the mean annual income of white graduates employed full time by schools was significantly lower than the mean annual incomes of black and Hispanic graduates employed full time by schools.

Summary

Although 1991 was predicted to be a "tough year" for college graduates entering the employment market, 83 percent of the respondents to the survey reported they were employed at the time they were surveyed, with 71 percent reporting they were employed full time. Campus career planning and placement center directors indicated that the proportion of graduates in the Class of 1991 who were employed within a year of graduation did not differ from prior years but that it took somewhat longer for Class of 1991 graduates to obtain their jobs. Overall, 45 percent of those employed full time were either already employed or had obtained their jobs by time of graduation, and a cumulative 86 percent had obtained their jobs within six months of graduation. For 14 percent of those employed full time, the job search took longer than six months.

Employment patterns differed slightly by the type of major in which graduates earned their baccalaureate degrees. While graduates who earned their baccalaureate degrees in professional fields accounted for 53 percent of the total respondents, they accounted for 58 percent of respondents employed full time. The majority of full-time employed graduates with majors in professional fields considered their jobs related to their major, ranging from a high of 99 percent for nursing majors to a low of 70 percent for communication majors. This relationship was corroborated by the types of employers and the occupations they reported. The majority of full-time employed arts and science majors also considered their jobs related to their majors, ranging from a high of 84 percent for math and science majors to a low of 51 percent for social and behavioral science majors. About one in five majors in the social and behavioral sciences, interdisciplinary and area studies, and general liberal arts and humanities, however, reported their jobs were not related to their majors by choice.

Overall, the vast majority of the full-time employed respondents reported satisfaction with their jobs, reported that their majors prepared them adequately or very well for their jobs, and expressed positive attitudes both towards their baccalaureate majors and towards the university from which they graduated. Not surprisingly, higher proportions of full-time employed respondents who had earned their baccalaureate degrees in professional fields were satisfied with their jobs and with their majors as job preparation than were full-time employed arts and science majors.

Within each undergraduate major, the mean annual incomes of male respondents employed full time were significantly higher than the mean annual incomes of women respondents employed full time. When examined by type of employer, the mean annual incomes of men employed full time were still significantly higher than the mean annual incomes of women employed full time for those self-

employed and those employed by industrial and commercial companies and by federal, state, and local government.

Further Education of the Class of 1991 Who Reported Full-Time Enrollment

Eighteen percent of the Class of 1991 survey respondents indicated they were enrolled full time for further education, nearly half of whom were also employed either full or part time. Table 9 shows the number and percentage of respondents enrolled full time in various types of educational programs by type of undergraduate major. Although only a third of the total respondents were arts and science majors, arts and science majors constituted the majority (53 percent) of respondents who reported they were enrolled full time for further education.

As Table 9 shows, 41 percent of the graduates enrolled full time were enrolled in programs that normally are considered entry-level career preparation: professional master's, doctoral, and first-professional programs (e.g., law, medicine, and other health professions). Table 9 also shows that 52 percent of the full-time enrolled graduates with baccalaureate degrees in professional fields were enrolled in one-year academic master's programs, 17 percent were enrolled in two-year professional master's programs, and only 10 percent were enrolled in first-professional degree programs. Among arts and science majors, on the other hand, more than 26 percent were pursuing first-professional degrees full time, and only 34 percent were enrolled in academic master's programs. The "other degree programs" category includes associate degree programs, second baccalaureate programs, and theology, as well as the open-ended "other" response on the survey. Less than one percent of the respondents enrolled full time indicated they were enrolled in associate degree programs, and only four percent indicated they were enrolled in programs leading to a second baccalaureate degree.

Table 10 presents greater detail on the program of enrollment and reported satisfaction for arts and science majors enrolled full time by undergraduate major. The table suggests that further education, like immediate employment, is related to undergraduate major. For example, although social and behavioral science majors accounted for 42 percent of the arts and science majors enrolled full time, they accounted for 75 percent of those enrolled in law school and more than half of those enrolled in professional master's programs. Similarly, although math and science majors accounted for only 34 percent of the arts and science majors enrolled full time, they accounted for 92 percent of the arts and science majors enrolled in medicine, dentistry, optometry, and other health professions programs. Math and science majors also accounted for two-thirds of those enrolled full time in doctoral programs. At doctoral-granting universities, baccalaureate graduates are generally accepted directly into doctoral programs in mathematics and science disciplines.

Nine out of ten arts and science majors who enrolled full time for further education reported satisfaction with their baccalaureate majors as preparation for further education. Nine out of ten also reported positive or very positive attitudes towards the university from which they graduated, with a nearly equal proportion reporting positive or very positive attitudes toward their undergraduate majors in general.

Table 11 presents similar enrollment and satisfaction information by undergraduate major for majors in professional fields who enrolled full time for further education. Together, computer science, engineering, and engineering technology graduates accounted for 32 percent of the professional majors who enrolled full time for further education, and business and accounting majors accounted for an additional 25 percent. Accounting and business majors constituted 57 percent of the professional majors enrolled full time in professional master's programs and 71 percent of those enrolled in law school. Engineering majors accounted for 82 percent of those enrolled directly into doctoral programs.

Nine out of ten professional majors also reported positive or very positive attitudes towards the university from which they received their baccalaureate degrees. Full-time enrolled communication

Table 9

CLASS OF 1991: TYPE OF PROGRAM FOR THOSE ENROLLED FULL TIME BY TYPE OF BACCALAUREATE MAJOR

	Professional Majors		Arts and Science Majors		All Other Majors		Major Unknown		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Academic Master's	446	52 %	440	34 %	101	37 %	10	48 %	997	41 %
Professional Master's	149	17	156	12	105	38	5	24	415	17
Doctorate	27	3	110	8	1	0	2	10	140	6
Law	66	8	170	13	16	6			252	10
Medicine & Other Health Professions	17	2	171	13	7	3	1	5	196	8
All Other ¹	149	17	253	19	43	16	3	14	448	18
TOTAL	854	100 %	1,300	100 %	273	100 %	21	100 %	2,448	100 %
Percent of Total Enrolled	35 %		53 %		11 %		1 %			

¹ Includes those enrolled in all other types of degree programs, those enrolled but not in a degree program, and those who did not answer the degree question.

Table 10

CLASS OF 1991: TYPE OF PROGRAM FOR THOSE ENROLLED FULL TIME BY ARTS AND SCIENCE MAJOR

	Liberal Arts/ Humanities Majors		Visual/Performing Arts Majors		Social/Behavioral Science Majors		Math & Science Majors		Total ¹	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Academic Master's	104	44 %	29	36 %	200	37 %	97	23 %	430	34 %
Professional Master's	24	10	29	36	87	16	14	3	154	12
Doctorate	7	3	1	1	28	5	72	17	108	8
Law	36	15	1	1	126	23	6	1	169	13
Medicine & Other Health Professions	3	1	0	0	10	2	158	37	171	13
All Other ²	60	26	20	25	88	16	83	19	251	20
TOTAL	234	100 %	80	100 %	539	100 %	430	100 %	1,283	100 %
Percent of Total Enrolled	18 %		6 %		42 %		34 %			

Reported Satisfaction

Percent Agreeing Major Prepared Very Well/Adequately for Further Education	89 %	96 %	93 %	96 %
Percent Positive/Very Positive towards Major	87	84	88	92
Percent Positive/Very Positive Towards University	88	89	92	93

¹Interdisciplinary majors have been excluded due to small number enrolled.²Includes those enrolled in all other types of degree programs, those enrolled but not in a degree program, and those who did not answer the degree question.

Table 11

CLASS OF 1991: TYPE OF PROGRAM FOR THOSE ENROLLED FULL TIME BY PROFESSIONAL MAJOR

	Agriculture/ Natural Resources		Accounting & Business		Communication		Computer Science, Engineering, & Engineering Tech		Education		Nursing & Health		Total	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Academic Master's	33	60 %	43	20 %	36	49 %	170	62 %	98	64 %	66	76 %	446	52 %
Professional Master's	2	4	85	40	15	21	19	7	20	13	8	9	149	17
Doctorate	1	2	1	0	0	0	24	9	0	0	1	1	27	3
Law	2	4	47	22	8	11	7	3	2	1	0	0	66	8
Medicine & Other Health Professions	1	2	2	1	1	1	7	3	4	3	2	2	17	2
All Other ¹	16	29	35	16	13	18	47	17	28	18	10	11	149	17
TOTAL	55	100 %	213	100 %	73	100 %	274	100 %	152	100 %	87	100 %	854	100 %
Percent of Total Enrolled	6 %		25 %		9 %		32 %		18 %		10 %			
Reported Satisfaction														
Percent Agreeing Major prepared Very Well/Adequately for Further Education	96 %		90 %		81 %		95 %		91 %		97 %			
Percent Positive/Very Positive towards Major	93		89		70		88		92		95			
Percent Positive/Very Positive towards University	89		93		89		92		91		92			

¹Includes those enrolled in all other types of degree programs, those enrolled but not in a degree program, and those who did not answer the degree question.

majors were less satisfied with their major as preparation for further education, and somewhat fewer reported positive or very positive attitudes towards their undergraduate major in general. Nine--or more--out of ten respondents with baccalaureate majors in other professional fields reported satisfaction with and positive attitudes towards their majors.

In sum, three out of ten respondents reported they were enrolled for further education when surveyed approximately one year after baccalaureate graduation. Almost two of ten of the total respondents were enrolled full time. While arts and science majors constituted only a third of the total respondents, they accounted for the majority (53 percent) of respondents enrolled full time. Fifty-two percent of full-time enrolled respondents with baccalaureate majors in professional fields, compared with 34 percent of full-time enrolled respondents with arts and science majors, reported they were pursuing academic master's degrees. Only 10 percent of the graduates with majors in professional fields who were enrolled full time were enrolled in first-professional degree programs compared with 26 percent of the graduates with arts and science majors who were enrolled full time.

Respondents pursuing further education full time appeared to be doing so in programs related to their undergraduate majors. For example, social science and business majors each accounted for 21 percent of the full-time enrollment in professional master's programs (e.g., two-year programs leading to the Master of Business Administration, Master of Public Administration, and Master of Social Work), 50 percent of those reporting full-time enrollment in law school were also undergraduate social science majors, and 81 percent of those enrolled full time in medicine, dentistry, and other first-professional health programs earned their baccalaureate degrees in mathematics or science. Math and science majors also accounted for 50 percent of those enrolled full time directly into doctoral programs, a pattern that occurs primarily in mathematics and science.

Overall, nine of ten respondents enrolled full time reported their undergraduate major prepared them adequately or very well for further education, and equal proportions reported positive attitudes both towards their majors in general and towards the university from which they earned their baccalaureate degrees.

Next Steps

Information obtained directly from graduates about their employment, further schooling, and satisfaction with their undergraduate experience is useful in the program review process at both the state and campus levels. In the past, the usefulness of follow-up information was marred by the lack of comparability among programs and among institutions. The common public university baccalaureate graduate follow-up survey questions and schedule are designed to provide this needed comparability.

Systematic graduate follow-up survey information is useful in several ways. At the state level, information on the type and rates of employment of graduates, as well as patterns of employment and education, will be used to augment labor market supply and demand data from the Illinois Department of Employment Security and the federal Bureau of Labor Statistics in evaluating statewide program capacity. As a result of the P•Q•P initiative, the state-level program review process for public university academic programs is being revised. Beginning with fiscal year 1994, public universities will be reviewing programs within the same discipline on a common, eight-year schedule. To set the stage for the reviews each year, the Board of Higher Education staff will distribute a statewide analysis of trends and issues within and across the disciplines to be reviewed at the start of the year, with the universities submitting their summary reports the following July. The statewide aggregated baccalaureate follow-up survey information will play an important role in the statewide analysis of trends.

At the campus level, the statewide follow-up information will be used as a standard against which each university can compare the employment, further education, and satisfaction of its graduates

in order to identify programs for additional review and for making program improvements. In addition, campuses can use the follow-up information from the campus, as well as the statewide aggregated data, in assisting currently enrolled students in program selection and career planning.

The results of this first administration of a common baccalaureate graduate follow-up survey provide the public universities a baseline against which each university can compare the responses of its graduates and track changes in rates of employment and further schooling and changes in attitudes over time in order to improve their undergraduate programs. Currently, the public universities are nearing completion of their surveys of baccalaureate graduates of the Class of 1988 five years following their graduation. In spring 1994, the universities will be surveying the Class of 1984 ten years after their graduation, and, in spring 1996, the Class of 1991 will be surveyed again. The next scheduled one-year-after-graduation survey of the Class of 1994 will be conducted in the spring of 1995.

The surveys of baccalaureate graduates five and ten years after graduation are intended to examine the longer-term relationship between undergraduate major and employment. After five and ten years, those graduates who enrolled immediately in graduate and first-professional schools after graduating will have had sufficient time to complete degrees and begin employment. It is likely, too, that some graduates who did not enroll immediately will have pursued additional education at a later date. It is also likely that graduates who were employed full time immediately after earning their baccalaureates will have changed jobs in the five or ten years since graduation--and, perhaps, their career paths, as well--since current labor market analyses suggest that people currently change jobs an average of ten to twelve times during their working lives. Finally, previous research studies have suggested that graduates are the most critical of both their majors and their universities immediately after graduation, expressing higher levels of satisfaction after several intervening years have lent perspective to their experiences.

The intent is to build a data base not only at the state level but within each institution that will permit the analysis of trends for use in program review and planning. As information becomes available from additional surveys in the coming years, trends in the employment, further education, and satisfaction of graduates should be valuable additions to the measures already available both at the state level and on campuses for improving the quality of undergraduate academic programs and student support services.

Appendix

**COMMON SURVEY QUESTIONS
FOR THE ILLINOIS PUBLIC UNIVERSITIES'
SURVEY OF BACCALAUREATE GRADUATES ONE YEAR AFTER GRADUATION**

Directions for Administration: For each of the common questions, please ask graduates to choose the response that most closely describes their status.

I. Employment Questions

1. Are you currently employed (including self-employed)?

- | | |
|------------------|--|
| 1 Yes, full time | 3 No, but <u>am</u> seeking employment |
| 2 Yes, part time | 4 No, and <u>am not</u> seeking employment |

If you are NOT employed (responses 3 and 4), skip to Section II.

2. What is the Zip Code of your place of employment? _____

3. How would you classify your primary employer?

- | | |
|--|--|
| 1 Self-employed or private practice | 5 Elementary/secondary school |
| 2 Industrial/commercial company | 6 Health agency (e.g., hospital, clinic) |
| 3 Professional firm (e.g., engineering, law) | 7 Federal, state, or local government |
| 4 College or university | 8 Armed services |
| 9 Other (please specify) _____ | |

4. How satisfied are you with your current job?

- | | |
|------------------|---------------------|
| 1 Very satisfied | 3 Dissatisfied |
| 2 Satisfied | 4 Very dissatisfied |

5. How closely related is your current job to your bachelor's degree major?

- | | | |
|-------------------|-----------|-------------|
| 1 Closely related | 2 Related | 3 Unrelated |
|-------------------|-----------|-------------|

If you marked "3" (unrelated), is this by choice? 1 Yes 2 No

6. When did you secure your first job following receipt of your bachelor's degree?

- | |
|-------------------------------------|
| 1 Held the same job while enrolled |
| 2 Secured job by time of graduation |
| 3 Secured job after graduation |

If you marked "3," how many months after graduation did you secure employment?

- | | |
|--------------------------|--------------------------|
| 1 Less than 1 month | 4 Between 6 and 9 months |
| 2 Between 1 and 3 months | 5 More than 9 months |
| 3 Between 3 and 6 months | |

7. What is your annual earned income before taxes in your current job? _____

8. Please indicate on the list below your primary occupation:

Arts, Communication, and Entertainment

- 1 Actor, dancer, musician, entertainer
- 2 Advertising agent, copywriter
- 3 Artist, author, composer
- 4 Designer
- 5 Filmmaker, photographer
- 6 Foreign language specialist, translator
- 7 Journalist, reporter, editor
- 8 Radio/TV broadcaster, technician
- 9 Other, please specify: _____

Business, Management, and Finance

- 10 Accountant, auditor
- 11 Bank teller, loan officer
- 14 Financial analyst, manager
- 15 Industrial/production manager
- 16 Marketing/public relations manager
- 17 Office manager, supervisor
- 18 Personnel/labor relations
- 19 Purchasing agent/buyer
- 20 Retail (store) manager
- 21 Restaurant/hotel/resort manager
- 23 Small business owner
- 24 Other, please specify: _____

Education

- 26 Child care/day care teacher
- 27 Pre-school/elementary teacher
- 28 Special education teacher
- 29 Secondary teacher, vocational teacher
- 31 Counselor/adviser (any level)
- 32 Teacher aide
- 33 Other, please specify: _____

Engineering and Computer Science

- 34 Computer operator
- 35 Computer programmer, systems analyst
- 36 Engineer
- 38 Technician/technologist
- 39 Other, please specify: _____

Health

- 40 Dental hygienist
- 41 Dental assistant
- 42 Dietitian, nutritionist
- 43 Medical records technician
- 44 Medical lab technician/technologist
- 45 Occupational therapist
- 46 Physical therapist
- 47 Recreational therapist
- 48 Radiologic technologist
- 49 Respiratory therapist
- 50 Registered nurse
- 51 Speech therapist/audiologist
- 52 Other, please specify: _____

Office Support

- 53 Information, records clerk
- 54 Legal assistant/paralegal
- 55 Receptionist, typist, clerk
- 56 Secretary
- 57 Other, please specify: _____

Professional Specialties

- 58 Architect, landscape architect
- 63 Librarian, archivist, curator
- 69 Other, please specify: _____

Public and Social Services

- 70 Armed forces
- 71 Fire fighter, officer
- 72 Police officer, guard, federal agent
- 73 Postal clerk, mail carrier
- 74 Public administrator, official
- 75 Recreation worker
- 76 Religious worker
- 77 Social worker/case worker
- 78 Urban/regional/city planner
- 79 Other, please specify: _____

Sales

- 80 Insurance agent, underwriter
- 81 Industrial sales representative
- 82 Real estate agent, broker
- 83 Retail/wholesale salesperson
- 84 Securities broker, salesperson
- 85 Other, please specify: _____

Sciences, Mathematics, and Agriculture

- 86 Actuary, statistician
- 87 Agricultural/food scientist
- 88 Environmentalist/conservationist
- 89 Farm owner, manager
- 90 Forester
- 91 Life scientist (biologist, zoologist, etc.)
- 92 Mathematician
- 93 Physical scientist (chemist, physicist, etc.)
- 94 Other, please specify: _____

Transportation and Industry

- 102 Airline pilot
- 103 Air traffic controller
- 104 Chef, cook, bartender
- 105 Construction trades
- 106 Flight attendant
- 107 Machinist, assembler
- 108 Mechanic, installer, repairer
- 109 Other, please specify: _____

9. In general, how well did your bachelor's degree prepare you for your present job?

- 1 Very Well 2 Adequately 3 Inadequately

II. Education Questions

10. Have you enrolled in a college or university since earning your bachelor's degree?

- 1 Yes, full time 2 Yes, part time 3 No

If you have NOT enrolled in a college or university (response "3"), skip to *Section III*.

11. Are you pursuing (or have you completed) an additional degree since earning your bachelor's?

- 1 Yes 2 No

If you are pursuing (or have completed) another degree, please indicate which degree below:

- | | |
|---|---------------------------------------|
| 1 Associate's | 6 Health Professional (dentistry, |
| 2 Second Bachelor's | pharmacy, podiatry, optometry, etc.) |
| 3 Academic Master's (MA, MS, MEd, etc.) | 7 Theology/Divinity |
| 4 Professional Master's (MBA, MSW, MFA, | 8 Law (LLB, JD) |
| MPA, etc.) or Education Specialist | 9 Doctorate (PhD, EdD, DA, DBA, etc.) |
| 5 Medicine (MD, DO) | 10 Other, please specify: |
-

12. In general, how well did your bachelor's degree prepare you for your additional degree program?

- 1 Very Well 2 Adequately 3 Inadequately

III. Satisfaction Questions

13. What is your present attitude towards the University (*Campus*)?

- | | |
|---------------------|---------------------|
| 1 Strongly positive | 3 Negative |
| 2 Positive | 4 Strongly negative |

14. What is your present attitude towards your bachelor's degree major?

- | | |
|---------------------|---------------------|
| 1 Strongly positive | 3 Negative |
| 2 Positive | 4 Strongly negative |